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CLAIMS DETAILED DESCRIPTION TECHNICAL FIELD PRIOR ART EFFECT OF THE  
INVENTION TECHNICAL PROBLEM MEANS OPERATION EXAMPLE DESCRIPTION OF  
DRAWINGS DRAWINGS

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[Translation done.]

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to KYARIATE-PU for an electronic-parts package which protected IC, a capacitor, and other electronic parts from KYARIATE-PU for an electronic-parts package, deformation by static electricity or the impact under conveyance, and breakage especially.

[0002]

[Description of the Prior Art] It is supposed that what was shown in drawing 2 from the former is well-known as KYARIATE-PU for an electronic-parts package. Although this drawing 2 shows the perspective view of the well-known KYARIATE-PU looping-around object 11 for an electronic-parts package conventionally. After forming the embossing section 13 of the shape of a concave container for this thing to contain electronic parts on the thermoplastics tape 12 with unification shaping of secondary forming, such as press forming or a vacuum forming, After forming the sprocket hole 14 for conveying this and containing electronic parts in this embossing section 13, heat adhesion of the hippo-tape 15 should be carried out at this. However, when this thing conveys, the electronic parts contained, especially the electronic parts which have the lead section have deformation and the disadvantage of being easy to be damaged, by the impact.

[0003] Therefore, although the height for holding each electronic parts is prepared in the pars basilaris ossis occipitalis of the embossing section at one in order to prevent deformation of electronic parts and breakage in this embossing section 13, about this, forming this embossing section and height in coincidence with press forming or a vacuum forming using the conductive thermoplastics tape which scoured conductive matter, such as carbon black, is also performed.

[0004]

[Problem(s) to be Solved by the Invention] However, conventionally [ this ], in elegance, since the dimension of this embossing section is specified, the electronic parts with which dimensions differ need to design the embossing section dimension and height dimension suitable for being unable to contain to this, therefore holding electronic parts for every electronic parts of each electronic-parts manufacture manufacturer about this, and need to prevent deformation of the electronic parts by the impact under conveyance, and breakage. Moreover, since there are an increment in the number of leads of electronic parts and narrow-ization of a lead pitch, it becomes easy to transform a lead and a configuration is also complicated as high integration of electronic parts, a miniaturization, and thin shape-ization progress about this, If secondary forming of this is carried out on the conductive thermoplastics tape which scoured carbon black in order for it to become difficult to adjust the width of face and the height of a height and to protect these electronic parts from static electricity further Since a thermoplastics tape is not enough lengthened at the time of secondary forming, the disadvantage that poor shaping, such as a hole vacancy, is generated is also produced.

[0005]

[Means for Solving the Problem] It is characterized by coming to consist of this layered product sheets which come to carry out the laminating of the thermoplastics foam sheet which has conductivity in the field which forms the interior of the embossing section of a thermoplastics sheet about KYARIATE-PU for an electronic-parts package to which this invention can solve such disadvantage.

[0006] Namely, the result examined variously that this invention person should develop KYARIATE-PU for an electronic-parts package which can solve disadvantage which was described above, If it shall consist of a layered product sheet which comes to carry out the laminating of the thermoplastics foam sheet which has conductivity in the field which forms the interior of the embossing section of a thermoplastics sheet for the thermoplastics tape which forms KYARIATE-PU Since the laminating of the conductive thermoplastics foam is carried out to the field which forms the interior of the embossing section of a thermoplastics sheet and the shock resistance under conveyance to electronic parts is given to it by this foam sheet, this thing Since it is not necessary to carry out secondary forming of the height to this and this has conductivity Since the failure of static electricity can also be prevented and some allowances arise in this dimension fitness in existence of this foam again at this It became without designing KYARIATE-PU for every electronic parts of each electronic-parts manufacture manufacturer, research on the class of foam which uses for a header and here that this can be communalized etc. was advanced, and this invention was completed. This is explained further in full detail below.

[0007]

[Function] This invention this about KYARIATE-PU for an electronic-parts package to the field which forms the interior of the embossing section of a thermoplastics sheet as described above It is what is characterized by coming to constitute the thermoplastics foam sheet which has conductivity from a layered product sheet which comes to carry out a laminating. Since according to this the laminating of the foam sheet is carried out to the field which forms the interior of the embossing section of a sheet and deformation of electronic parts and damage are prevented by this foam A height becomes unnecessary at this KYARIATE-PU, since this has conductivity, the failure by static electricity can be prevented, and the profitableness of becoming unnecessary to design KYARIATE-PU for every electronic-parts manufacture manufacturer is given.

[0008] Although KYARIATE-PU for an electronic-parts package of this invention should consist of a layered product sheet with which the laminating of the thermoplastics foam sheet which has conductivity in the field which forms the interior of the embossing section of a thermoplastics sheet was carried out, this thing should be shown in drawing 1. It is [0009] by which drawing 1 should show drawing of longitudinal section of the layered product sheet which constitutes KYARIATE-PU for an electronic-parts package of this invention, and the laminating should be carried out in the thermoplastics foam sheet 3 which has conductivity in the field in which this layered product sheet 1 forms the interior of the embossing section of the thermoplastics sheet 2. Polystyrene resin with the well-known thermoplastics sheet used here, polyester resin, That what is necessary is to just be made from polypropylene resin, vinyl chloride system resin, polycarbonate resin, etc. This thermoplastics foam sheet Polystyrene resin, polyethylene resin, Although it is good, this foam sheet from to consider as the thing made from polypropylene resin etc., then the thing which has conductivity being needed Or this would not consist of thermoplastics which mixed carbon black, it should just carry out the laminating of the conductive film made from the constituent which applied to the front face of this foam sheet the conductive matter which mixed carbon black, or mixed carbon black etc. In addition, in order to prevent the fall of the moldability of a layered product sheet, and the buffer nature to the impact of electronic parts, as for the consistency of the foam sheet used here, it is good that it shall be 5 to 50 times the expansion ratio of this, and thickness is good to be referred to as 0.2-0.5mm.

[0010] Although KYARIATE-PU for an electronic-parts package of this invention consists of layered product sheets which carried out the laminating of the foam sheet which has the conductivity described above to the field which forms the interior of the embossing section of this thermoplastics sheet After fabricating continuously the embossing section 13 of the shape of a concave container to which this carries out a well-known approach for this layered product sheet, and carries out press forming or electronic-parts receipt as shown for carrying out a vacuum forming at drawing 2 for this, It can make by punching the invoice hole 14 for conveying this continuously at constant pitch.

[0011] Thus, KYARIATE-PU for an electronic-parts package of made this invention consists of foam sheets with the conductivity which the surface layer inside the embossing section which contains electronic parts described above. Since the electronic parts contained by this here become what bears an impact The profitableness that the height for preventing deformation of the electronic

parts needed by conventional KYARIATE-PU and breakage becomes unnecessary is given, and Since this has conductivity, the failure of static electricity can be prevented. The profitableness that this can be used in common with each electronic-parts manufacture manufacturer's electronic parts since some allowances furthermore arise in that dimensional accuracy by existence of this foam sheet can be given. The profitableness of becoming what has sufficient mechanical strength also to the automaton furthermore used for mounting to the insertion process and printed circuit board to KYARIATE-PU of electronic parts by existence of a thermoplastics sheet is also given.

[0012]

[Example] Next, the example of this invention is given.  
it foams to what carried out 30 weight sections mixing of the carbon black by one 20 times the expansion ratio of this at the example high-density-polyethylene resin 100 weight section -- making -- thickness -- 0.3mm an electric resistance value -- 106 Omega/cm it is -- a high-density-polyethylene foam sheet -- making -- this -- thickness -- 0.2mm it is -- the laminating of the 2 liquid mixed adhesive of an urethane system was used and carried out to one side of a vinyl-chloride-resin sheet, and the layered product sheet was manufactured.

[0013] Subsequently, after carrying out secondary forming of the 15.0x15.0x3.5mm embossing section which contains electronic parts to carry out the vacuum forming of this layered product sheet continuously at intervals of 20mm, Punch a sprocket hole continuously in the pitch of 4mm, and KYARIATE-PU is made. After it inserts QFP type IC in this embossing section and a base material tapes using the hippo-tape whose adhesives layer is an ethylene-vinylacetate copolymer with biaxial-stretching polyester film, When the conveyance test about this thing was performed, in spite of having not made the height for deformation prevention of the lead section of IC to this, deformation in the lead section of IC did not occur and the failure by static electricity did not generate this again.

[0014]

[Effect of the Invention] Although this invention is characterized by this consisting of layered product sheets with which the laminating of the thermoplastics foam sheet which has conductivity in the field which forms the interior of the embossing section of a thermoplastics sheet as described above was carried out about electronic-parts KYARIATE-PU Since this thing turns into that in which the electronic parts which consist of foam sheets in which the surface layer inside the embossing section which contains electronic parts has conductivity, and are contained by this here have shock resistance The height which prevents deformation of electronic parts and breakage becomes unnecessary, and generating of the failure by static electricity can be prevented. Since the profitableness that it can be used in common with various electronic parts is given since allowances furthermore produce this KYARIATE-PU in dimensional accuracy by existence of a foam sheet, and this can be manufactured easily and efficiently, versatility becomes what was economically excellent highly.

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CLAIMS

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[Claim(s)]

[Claim 1] KYARIATE-PU for an electronic-parts package characterized by coming to consist of layered product sheets which come to carry out the laminating of the thermoplastics foam sheet which has conductivity in the field which forms the interior of the embossing section of a thermoplastics sheet

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TECHNICAL FIELD

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PRIOR ART

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[0003] Therefore, although the height for holding each electronic parts is prepared in the pars basilaris ossis occipitalis of the embossing section at one in order to prevent deformation of electronic parts and breakage in this embossing section 13, about this, forming this embossing section and height in coincidence with press forming or a vacuum forming using the conductive thermoplastics tape which scoured conductive matter, such as carbon black, is also performed.

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EFFECT OF THE INVENTION

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[Effect of the Invention] This invention relates to electronic-parts KYARIATE-PU. Although characterized by this consisting of layered product sheets with which the laminating of the thermoplastics foam sheet which has conductivity in the field which forms the interior of the embossing section of a thermoplastics sheet as described above was carried out Since this thing turns into that in which the electronic parts which consist of foam sheets in which the surface layer inside the embossing section which contains electronic parts has conductivity, and are contained by this here have shock resistance The height which prevents deformation of electronic parts and breakage becomes unnecessary, and generating of the failure by static electricity can be prevented. Since the profitableness that it can be used in common with various electronic parts is given since allowances furthermore produce this KYARIATE-PU in dimensional accuracy by existence of a foam sheet, and this can be manufactured easily and efficiently, versatility becomes what was economically excellent highly.

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TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Invention] However, conventionally [ this ], in elegance, since the dimension of this embossing section is specified, the electronic parts with which dimensions differ need to design the embossing section dimension and height dimension suitable for being unable to contain to this, therefore holding electronic parts for every electronic parts of each electronic-parts manufacture manufacturer about this, and need to prevent deformation of the electronic parts by the impact under conveyance, and breakage. Moreover, since there are an increment in the number of leads of electronic parts and narrow-ization of a lead pitch, it becomes easy to transform a lead and a configuration is also complicated as high integration of electronic parts, a miniaturization, and thin shape-ization progress about this, If secondary forming of this is carried out on the conductive thermoplastics tape which scoured carbon black in order for it to become difficult to adjust the width of face and the height of a height and to protect these electronic parts from static electricity further Since a thermoplastics tape is not enough lengthened at the time of secondary forming, the disadvantage that poor shaping, such as a hole vacancy, is generated is also produced.

[0005]

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MEANS

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[Means for Solving the Problem] It is characterized by coming to consist of this layered product sheets which come to carry out the laminating of the thermoplastics foam sheet which has conductivity in the field which forms the interior of the embossing section of a thermoplastics sheet about KYARIATE-PU for an electronic-parts package to which this invention can solve such disadvantage.

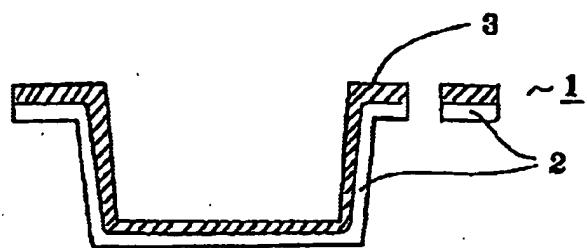
[0006] Namely, the result examined variously that this invention person should develop KYARIATE-PU for an electronic-parts package which can solve disadvantage which was described above, If it shall consist of a layered product sheet which comes to carry out the laminating of the thermoplastics foam sheet which has conductivity in the field which forms the interior of the embossing section of a thermoplastics sheet for the thermoplastics tape which forms KYARIATE-PU Since the laminating of the conductive thermoplastics foam is carried out to the field which forms the interior of the embossing section of a thermoplastics sheet and the shock resistance under conveyance to electronic parts is given to it by this foam sheet, this thing Since it is not necessary to carry out secondary forming of the height to this and this has conductivity Since the failure of static electricity can also be prevented and some allowances arise in this dimension fitness in existence of this foam again at this It became without designing KYARIATE-PU for every electronic parts of each electronic-parts manufacture manufacturer, research on the class of foam which uses for a header and here that this can be communalized etc. was advanced, and this invention was completed. This is explained further in full detail below.

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[Translation done.]

Drawing selection Representative drawing ▾

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